CLAIMS

1. A method for photodynamic therapy for the reduction of adipose tissue or adipocytes in a mammalian subject comprising:

administering to the subject a therapeutically effective amount of a photosensitizing agent or a photosensitizing agent delivery system or a prodrug, wherein said photosensitizing agent or said photosensitizing agent delivery system or said prodrug selectively localizes in the adipose tissue or the adipocytes;

irradiating at least a portion of the subject with light at a wavelength absorbed by said photosensitizing agent or if said prodrug, by a prodrug product thereof, wherein said light is provided by a light source; and wherein said irradiation is administered at a relatively low fluence rate that results in the activation of said photosensitizing agent or said prodrug product; and

wherein said PDT drug is cleared from the skin and subcutaneous tissues of the subject prior to said irradiation.

2. The method of claim 1, wherein said light source is selected from the group consisting of one or a plurality of: laser diodes; light emitting diodes; electroluminescent light sources; incandescent light sources; cold cathode fluorescent light sources; organic polymer light sources; or inorganic light sources.

3. The method of claim 1 or claim 2, wherein said light source is external to the skin layer and the light beam is directed through the skin to the adipose tissue or the adipocytes.

4. The method of claim 2, wherein said laser diode is coupled to an optical fiber, and wherein said optical fiber directs said light to the adipose tissue or the adipocytes.

5. The method of claim 2, wherein said light emitting diode is a light emitting diode strip, and wherein said light emitting diode strip is placed external to the skin layer and overlying the adipose tissue or the adipocytes.

6. The method of claim 4, wherein said optical fiber diffuses said light when placed over the adipose tissue or the adipocytes.

7. The method of claim 4 or claim 6, wherein said light source is a mat comprising a plurality of said optical fiber.

8. The method of any of the preceding claims, wherein said photosensitizing agent is selected from the group consisting of: indocyanine green; methylene blue; toluidine blue; delta-aminolevulinic acid; protoporphyrin; bacteriochlorins; phthalocyanines; porphyrins; texaphyrins; merocyanines; psoralens; pyropheophorbides; chlorins; purpurins; and any other agent that absorbs light in a range of 500 nm - 1100 nm.

9. The method of claim 8, wherein said photosensitizing agent is a mono-, di- or polyamide aminodicarboxylic acid derivative of a cyclic or non-cyclic tetrapyrrole.

10. The method of any of claims 1-9, wherein said photosensitizing agent is mono-L-aspartyl chlorin e6 (NPe6).

11. The method of claim 1, wherein said wavelength is from about 500 nm to about 1100 nm.

12. The method of claim 1 or claim 11, wherein said wavelength is greater than about 700 nm.

13. The method of any of claims 1-12, wherein said light results in a single photon absorption mode by the photosensitizing agent.

14. The method of claim 8, wherein a complex, comprising said photosensitizing agent is conjugated to an adipose-tissue specific ligand which localizes in the adipose tissue or to the adipocytes.

15. The method of claim 14, wherein said ligand is an: adipocyte antigen; adipocyte cell receptor; or other adipocyte cellular surface component.

16. The method of claim 15, wherein said antigen is lipoprotein lipase.

17. The method of claim 14, wherein said complex is administered systemically or locally.

18. The method of claim 17, wherein said complex is formulated for administration orally, topically, intravenously or by any percutaneous route of injection.

19. The method of claim 17, wherein local administration is followed by a method to allow the complex to permeate the skin and into the subcutaneous adipose tissue.

20. The method of claim 8, wherein said light source is inserted internal to the skin layer of the subject.

21. The method of any of claims 1-20, wherein the reduction of the adipose tissue or the adipocytes occurs by apoptosis of the adipocytes.

22. An apparatus for transcutaneous photodynamic therapy of adipose tissue or adipocytes in a mammalian subject comprising a light source that is external to the subject and is selected from the group consisting of one or a plurality of: laser diodes; light emitting diodes; electroluminescent light sources; incandescent light sources; cold

cathode fluorescent light sources; organic polymer light sources; or inorganic light sources.

23. The apparatus of claim 22, wherein said light source is at least one laser diode coupled to an optical fiber which directs said light to the adipose tissue or the adipocytes.

24. The apparatus of claim 22 or claim 23, wherein said diode is a light emitting diode strip, and wherein said light emitting diode strip may be placed over the skin to contour the adipose tissue to be treated.